



10G SFP+ SR Active Optical Cable (SFP+SR AOC)
Compliant to industrial standard SFP+ MSA
Supports 10 Gbps data rate links of up to 100m OM3 fiber

Features



- Cost effective 10G SFP+ SR solution
- Fiber link up to 100 meters OM3 fiber
- Low power consumption
- Hot pluggable interface
- ROHS-6 compliant
- Metal enclosure, for lower EMI
- 1W maximum power consumption
- Single power supply 3.3V
- Operating temperature range: 0 °C to 70 °C

Ordering Information

PART NUMBER	DESCRIPTION	NOTE
LE28-H3C-TC-N-A xx	xx : Cable Length 01: 1m 03: 3m 05:5m 10: 10m 20: 20m 30:30m 50: 50m A0:100m	Refer to "Page 5" for tolerance of cable length



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Absolute Maximum Ratings

PARAMETER	MIN	MAX	UNITS	NOTE
Storage Temperature	-20	85	°C	
Max Supply Voltage	-0.5	4.0	V	
Relative Humidity	5	85	%	

Recommend Operating Condition

PARAMETER	SYMBOL	MIN	TYP.	MAX	UNITS	NOTE
Case Temperature	T_c	0		70	°C	
3.3V Power Supply Voltage	V_{cc}	3.15	3.3	3.45	V	
Signal Rate per Channel	B	-100ppm	10.3125	+100ppm	Gb/s	
Bit Error Ratio			10^{-12}		Error/bits	Note 1
Two Wire Serial (TWS) Interface Clock Rate				400	kHz	
Differential Data Input / Output Load	Z_d		100		Ohms	
Standard Cable Lengths		1		100	m	OM3 fiber

Note 1. Bit-Error-Rate (BER) is tested with PRBS $2^{31}-1$ pattern.



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Electrical characteristics

PARAMETER	SYMBOL	MIN	TYP.	MAX	UNITS	NOTE
Transceiver Power Consumption	P			1	W	
Transceiver Power Supply Current	I_{cc}			300	mA	

Transmitter Electrical characteristics

PARAMETER	SYMBOL	MIN	TYP.	MAX	UNITS	NOTE
Data Input Differential Peak-to-Peak Voltage Swing	V_{DIFF}	200		800	mVpp	
TX_DIS assert time	t_{off}			100	us	
TX_DIS negate time	T_{on}			2	ms	

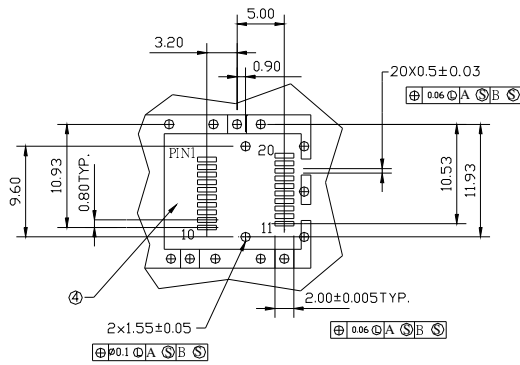
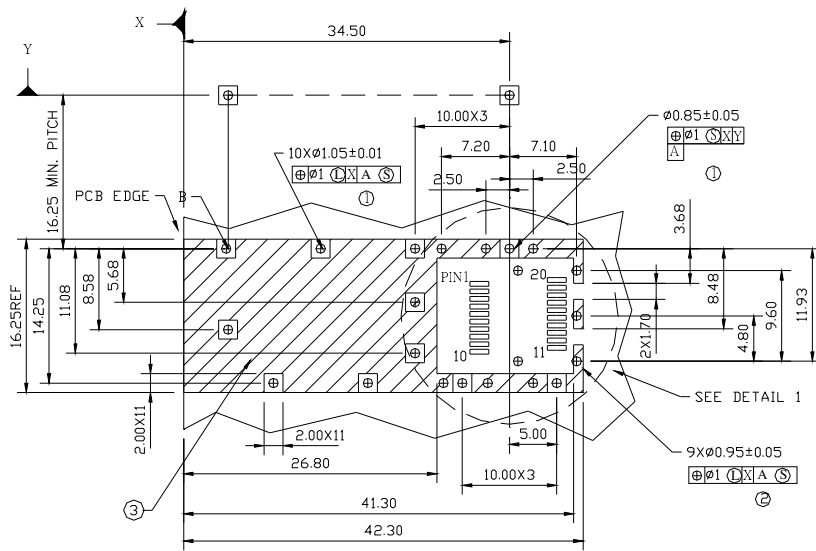
Receiver Electrical characteristics

PARAMETER	SYMBOL	MIN	TYP.	MAX	UNITS	NOTE
Data Output Differential Peak-to-Peak Voltage Swing	V_{DIFF}	300		800	mVpp	
Total Jitter(pk-pk)	T_j			0.7	UI	Note 1
Eye Mask		10			%	Note 2
RX_LOS level-High		2		Vcc	V	
RX_LOS level-Low		0		0.8	V	
RX_LOS assert delay	Los_{on}			100	us	
RX_LOS negate delay	Los_{off}			100	us	

Note 1. SFF-8431 SFP+ MSA Section 3.6.2, Table 19, Figure 23 mask, at 25°C, 3.3V.

Note 2: SFF-8431 SFP+ MSA Section 3.6.2, Table 19, D5,D12 condition

SFP host board mechanical layout



DETAIL 1

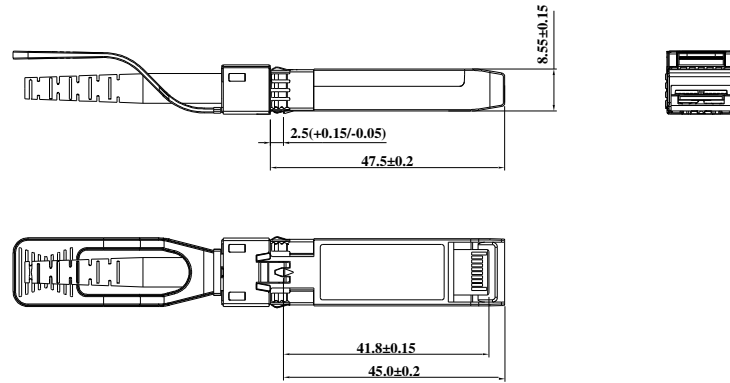
Unit: mm

LEGEND

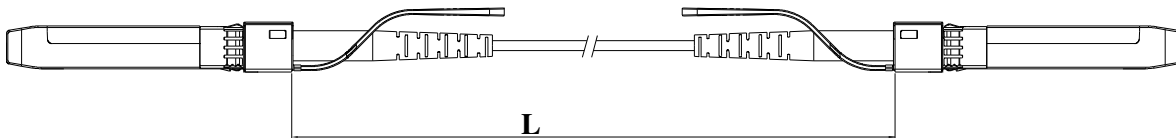
1. PADS AND VIAS ARE CHASSIS GROUND
2. THROUGH HOLES, PLATING OPTIONAL
3. HATCHED AREA DENOTES COMPONENT AND TRACE KEEPOUT (EXCEPT CHASSIS GROUND)
4. AREA DENOTES COMPONENT KEEPOUT (TRACES ALLOWED)

DIMENSIONS ARE IN MILLIMETERS

Dimensions



DIMENSIONS ARE IN MILLIMETERS



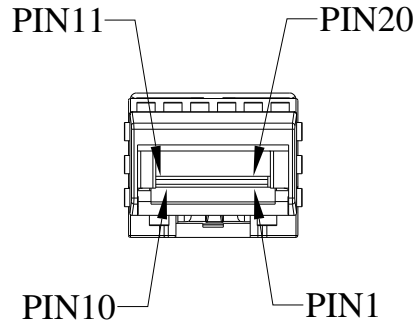
L	Tolerance
1m	0~+20cm
3m	±20cm
5m	±20cm
10m	±0.5m
20m	±0.5m
30m	±0.5m
50m	±1m
100m	±1m



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Pin Assignment

Pin-Out



Pin	Signal Name	Description
1	T_{GND}	Transmit Ground
2	TX_FAULT	Transmit Fault, LVTTTL High/Low, open drain
3	$TX_DISABLE$	Transmit Disable
4	$MOD_DEF (2)$	SDA Serial Data Signal
5	$MOD_DEF (1)$	SCL Serial Clock Signal
6	$MOD_DEF (0)$	LVTTTL Low
7	$RS0$	RX Rate Select, No used
8	RX_LOS	Receiver Loss of Signal, LVTTTL High/Low, open drain
9	$RS1$	TX Rate Select, No used
10	R_{GND}	Receiver Ground
11	R_{GND}	Receiver Ground
12	$RX-$	Receive Data out Bar, AC coupled
13	$RX+$	Receive Data out, AC coupled
14	R_{GND}	Receiver Ground
15	V_{CCR}	Receiver Power Supply
16	V_{CCT}	Transmitter Power Supply
17	T_{GND}	Transmitter Ground
18	$TX+$	Transmit Data in, AC coupled
19	$TX-$	Transmit Data in Bar, AC coupled
20	T_{GND}	Transmitter Ground



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Handling

Care should be taken to restrict exposure to the conditions defined in the Absolute Maximum Ratings. Put the product in an even and stable location. If the product falls down or drops, it may cause an injury or malfunction. The cable must not be subject to extreme bends during installation or while in operation. If you bend the cable at a radius less than the cable minimum bend radius, then the cable may get damaged. Don't twist or pull by force ends of the cable, which might cause malfunction. In addition, the bending direction should be perpendicular to the flat surface of the ribbon cable. Please do not bend or kink the cable in lateral directions of flat surface of the ribbon.

